Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
MCMURDO, LTD.	)	WT Docket No. 10-34
	)	
Request for Waiver to Allow Certification and Use of Smartfind S5 Automatic Identification System Search and Rescue Transponder	)	

ORDER

Adopted: July 7, 2010 **Released: July 8, 2010**

By the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau:

1. *Introduction*. This item grants a waiver request to permit the certification and use of a new type of search and rescue equipment. On November 29, 2009, McMurdo, Ltd. (McMurdo) filed a request for waiver of Section 80.1101(c)(6) of the Commission's Rules[1] to permit equipment certification and use of its Smartfind S5 Automatic Identification System Search and Rescue Transponder (AIS SART).[2] For the reasons set forth below, we grant McMurdo's request for waiver.

2. *Background*. AIS is a maritime navigation safety communications system that provides vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information, automatically to appropriately equipped shore stations, other ships, and aircraft.[3] The AIS SART, as part of this system, is used to locate a survival craft or distressed vessel by transmitting a unique identification code and Global Positioning System (GPS) coordinates to all AIS-enabled devices within VHF radio range.[4] The International Maritime Organization has amended the Global Maritime Distress and Safety System (GMDSS) regulations to permit AIS SARTs as an alternative to GMDSS SARTs operating in the 9.2-9.5 GHz (9 GHz) band, effective January 1, 2010.[5]

3. Like a 9 GHz GMDSS SART, the Smartfind S5's purpose is to help locate vessels by transmitting a signal that is intended to assist in quickly locating a survivor craft during search and rescue operations.[6] McMurdo states that the Smartfind S5 meets the international requirements for an AIS

[1] 47 C.F.R. § 80.1101(c)(6).

[2] *See* Letter to FCC, from Neil Jordan, Engineering Manager, McMurdo Limited, dated November 29, 2009 (Waiver Request).

[3] *See* Amendment of the Commission's Rules Regarding Maritime Automatic Identification Systems, *Memorandum Opinion and Order and Notice of Proposed Rule Making*, WT Docket No. 04-344, 19 FCC Rcd 20071, 20074 ¶ 5 (2004).

[4] Waiver Request at 1-2.

[5] *See* IMO Resolution MSC.246(83), "Adoption of Performance Standards for Survival Craft AIS Search and Rescue Transmitters (AIS-SART) for Use in Search and Rescue Operations." All cargo vessels over three hundred gross tons must carry survival craft equipment consisting of two handheld VHF radios and a 9 GHz SART; for cargo vessels over five hundred gross tons and passenger vessels, the requirement increases to three handheld VHF radios and two SARTs. *See* 47 C.F.R. § 80.1095(b).

[6] The Smartfind S5 is programmed by the manufacturer with a unique nine-digit identification code in which the first three digits (970) identify the device as an AIS SART and the last six digits identify the manufacturer and the individual unit. It receives its position via an internal GPS antenna, combines it with the identification code, and transmits a signal to all AIS-enabled devices within VHF radio range.

SART.[7] In light of the fact that the Smartfind S5 is not a 9 GHz GMDSS SART, however, it does not meet all of the GMDSS SART technical requirements in Section 80.1101(c)(6). Specifically, the Smartfind S5 transmits on the international AIS channels (AIS 1 – 161.975 MHz and AIS 2 – 162.025 MHz) in the maritime VHF band, using a modulation scheme of Self-Organizing Time Division Multiple Access (SOTDMA) employing Gaussian minimum shift keying. A 9 GHz GMDSS SART transmits a pulsed transmission, and the modulation is a series of twelve sweeps from 9.2 GHz to 9.5 GHz. Also, the Smartfind S5's power is one watt, compared to four hundred milliwatts for the 9 GHz GMDSS SART. McMurdo believes that its Smartfind S5 will enhance marine safety by improving the efficiency of search and rescue operations.[8] No responses were received to a *Public Notice* seeking comment on McMurdo's waiver request.[9]

4. *Discussion.* Section 1.925(b)(3) of the Commission's Rules provides that we may grant a waiver if it is shown that (a) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and grant of the requested waiver would be in the public interest; or (b) in light of unique or unusual circumstances, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.[10] We find that a waiver is warranted under the circumstances presented.

5. Specifically, we conclude that a waiver would further the underlying purpose of the Commission's SART rules. SARTs are stations in the maritime mobile service that are intended to assist nearby ships in locating and rescuing survival craft or vessels in distress. Each time a 9 GHz GMDSS SART detects a pulse from the radar of a searching vessel that is within approximately five nautical miles, the SART transmits a signal that is displayed on the screen of the radar that activated it. To ensure that such signals are received, the performance standards incorporated in the Commission's rules require that SARTs operate on a certain frequency using a certain modulation and output power. To accomplish an analogous purpose, the Smartfind S5 uses AIS frequencies to transmit its precise GPS location to be displayed on an AIS-enabled electronic chart.[11] We agree with McMurdo that its Smartfind S5 performs more effectively than other locating devices, such as emergency position indicating radiobeacons or 9 GHz GMDSS SARTs, and will enhance marine safety by making search and rescue operations more efficient and less time-consuming.[12]

6. We therefore grant McMurdo's waiver request to permit the certification and use of its Smartfind S5 AIS SART. Prior to submitting an equipment authorization application to the Commission, McMurdo must submit the following information, in duplicate, to the Commandant (GG-521), U.S. Coast

[7] In addition to the IMO requirements, performance and technical specifications for the AIS SART were approved by the International Electrical Committee on January 15, 2010. *See* IEC 61097-14 Ed. 1, "Global maritime distress and safety system (GMDSS) – Part 14: AIS search and rescue transmitter (AIS-SART) – Operational and performance requirements, methods of testing and required test results."

[8] *See* Waiver Request at 3.

[9] *See* Wireless Telecommunications Bureau Seeks Comment on Request by McMurdo, Ltd. for Waiver to Allow Certification and Use of Smartfind S5 Automatic Identification System Search and Rescue Transponder, *Public Notice*, WT Docket No. 10-34, 25 FCC Rcd 1253 (WTB MD 2010).

[10] 47 C.F.R. § 1.925(b)(3); *see also WAIT Radio v FCC*, 418 F. 2d 1153, 1159 (D.C. Cir. 1969).

[11] Waiver Request at 2. Additionally, the Smartfind S5 transmits its signal in a specific pattern to maximize the probability of reception. It transmits four messages on AIS 1 and four on AIS 2 in specific time slots within a fourteen-second time frame. This maximizes the probability that one of the transmissions coincides with the device being at the top of a wave, to enhance reception. It is only necessary to receive one of the eight messages to accurately locate the Smartfind S5, while the 9 GHz GMDSS SART requires continuous updates.

[12] *See id.* at 2-3.

Guard (Stop 7126), 2100 2nd Street, SW, Washington, DC 20593-7126: a) the manufacturer name and model number of the device; and b) copies of the test report and test data obtained from a test facility recognized by the U.S. Coast Guard showing that the device complies with the environmental and operational requirements identified in IEC 61097-14 Ed. 1, "Global maritime distress and safety system (GMDSS) – Part 14: AIS search and rescue transmitter (AIS-SART) – Operational and performance requirements, methods of testing and required test results." After reviewing the information, the Coast Guard will issue a letter stating whether the device satisfies all of the requirements specified in IEC 61097-14 Ed. 1. This letter must be submitted to the Commission as part of McMurdo's equipment authorization application, along with a copy of the technical test data, and the instruction manual(s). This procedure applies to the initial application for certification, and any subsequent permissive change requests.

7. Accordingly, IT IS ORDERED, pursuant to Sections 4(i) and 303(i) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(i), and Section 1.925 of the Commission's Rules, 47 C.F.R. § 1.925, that the Request for Waiver filed by McMurdo, Ltd. on November 29, 2009, IS GRANTED, and Section 80.1101 of the Commission's Rules, 47 C.F.R. § 80.1101, IS WAIVED to the extent necessary to permit equipment authorization for McMurdo's Smartfind S5 Automatic Identification System Search and Rescue Transponder, FCC Identification Number KLS-S5. A copy of this *Order* shall be submitted with the equipment authorization application.

8. This action is taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Scot Stone
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